BXUV.D799

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

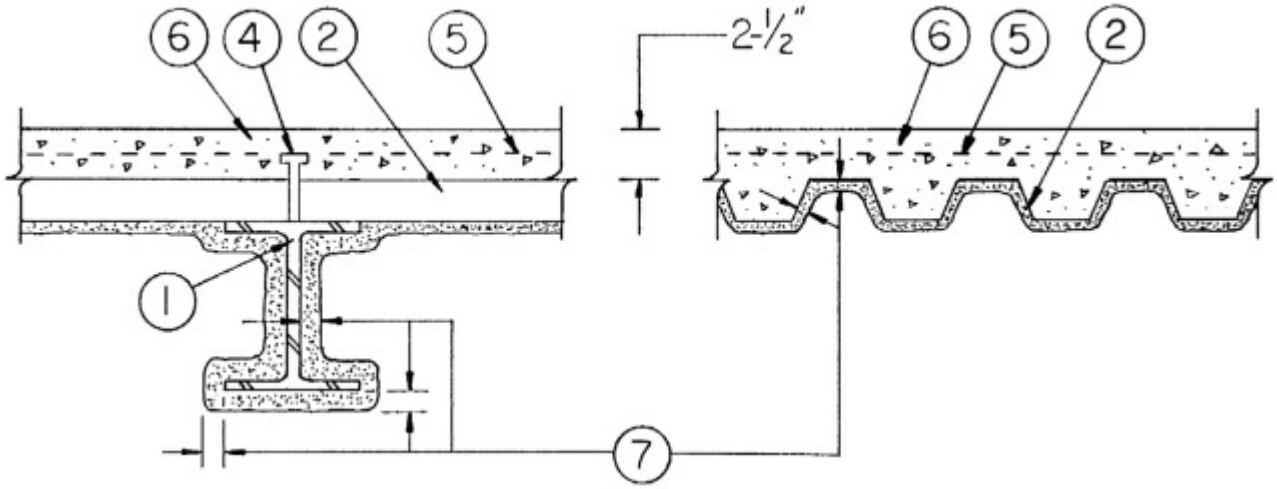
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. D799

Restrained Assembly Rating — 1, 1-1/2, 2 and 3 Hr.
(See Items 2, 7, 9, 9A and 12)
Unrestrained Assembly Rating — 1, 1-1/2, 2 and 3 Hr.
(See Items 2, 7, 9, 9A and 12)
Unrestrained Beam Rating — 1, 1-1/2, 2, 3 Hr. (See Item 7).
Loading determined by Allowable Stress Design Method or Load and Resistance Factor Design Method published by the American Institute of Steel Construction, or in accordance with the relevant Limit States Design provisions of Part 4 of the National Building Code of Canada — See Guide BXUV or BXUV7
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Steel Beam —** W8x28 steel beam min size.

1A. **Steel Joist —** (Not Shown) — Composite or non-composite min 10k1 or min depth and weight shall be 10 in. and 4.8 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design yield stress of 50,000 psi (50 ksi). Welded or bolted to end supports. Top chords shall consist of two angles measuring 1-1/4 by 1-1/4 by 0.136 in. thick. Bottom chord shall consist of two angles measuring 1 by 1 by 0.112 in. thick, min. The first diagonal web member at each end shall consist of a min. 0.62 in. diam round bar. All remaining web members shall consist of 0.50 in. diam round bars, min. Bridging per S.J.I. specifications when non-composite joists are used.

2. **Steel Floor and Form Units* —** Composite or non-composite, 1-1/2, 2 or 3 in. deep galv units. Min gauges are 22 MSG for the fluted and 20/20 MSG for the cellular units. The units may be blended alternating one cellular unit to one or more fluted units.
ASC STEEL DECK, DIV OF ASC PROFILES L L C — 32 in wide Types NH-32, NHN-32, NHF-32; 36 in. wide Types BH-36, BHN-36, BHN-35-1/4, BHF-36,BHF-36A, 2WH-36, 2WHS-36, 2WHF-36, 2WHF-36A, 3WH-36, 3WxH-36, 3WxHF-36, 3WxHF-36A, 3WHF-36,3WHF-36A, 3W-36, 3WF-36, DG3W-36, DG3WF-36. All units may be galvanized or Prime Shield. Non-cellular decks may be vented designated with a "V" suffix to the product name.

CANAM GROUP INC — 36 in. wide Type P-3623, P-3606, and P-3615 composite; 24 in wide Type P-2432 composite; 36 in. wide Type P-3606 and P-3615 non-composite; 24 in. wide Type P-2436, and P-2404 non-composite; 24 or 36 in. wide Type LF3 fluted unit. Type LF3 unit may be phos/ptd; 36 in. wide Types 1.5B, 1.5BI, 1.5BL and 1.5BL.

CANAM STEEL CORP — 24 in. wide Types LF1.5 and NL, 24, 30 or 36 in. wide Type BL, 24 or 36 in. wide Types LF2 and LF3 fluted units; 24 in. wide Types AWC2, AWC3, LFC1.5, and NLC, 24, 30 or 36 in. wide Type BLC, and 24 or 36 in. wide Types LFC2 or LFC3 cellular units. Types BL, LF2, LF3, and NL units may be phos/painted

CANAM STEEL CORP — 36 in. wide Type P-3623, P-3606, and P-3615 composite; 24 in wide Type P-2432 composite; 36 in. wide Type P-3606 and P-3615 non-composite; 24 in. wide Type P-2436, P-2404, P-2403, and P-2438 non-composite

KAM INDUSTRIES LTD, DBA CORDECK — 24 in. wide Type QL-3, and 24 or 36 in. wide Types 2"-QL-99 and 3" -QL-99 fluted units; 24 in. wide Types QL-NKX, QL-UKX, QL-GKXH and QL-TKX, and 24 or 36 in. wide Types QL-AKX, QL-AKD, QL-WKD, and QL-WKX cellular units

CHIA TEH CONSTRUCTION MATERIAL CO LTD — 24 or 36 in. wide Mac-Lok 3; 24 in. wide CFD-3

DECK WEST INC — 36 in. wide Type 2-DW, 3-DW, B-DW or BA-DW fluted units

DESIGN ASSISTANCE CONSTRUCTION SYSTEMS INC — 36 in. wide Type DACS1.5CD, or 24 in. wide Type DACS2.0CD, or DACS3.0CD

EPIC METALS CORP — 24 in. wide Types EC150, EC366; 36 in. wide Type EC266 fluted units; 24 in. wide Types EPC2, EPC3, ECP150, ECP366, 30 in. wide Type ECB150; 36 in. wide Type ECP266 cellular units

KAM INDUSTRIES LTD, DBA CORDECK — 24 in. wide Types WDR2, WDR3

NEW MILLENNIUM BUILDING SYSTEMS L L C — 24, 30 or 36 in. wide Type 1.5CD, 1.5CDI, 1.5CFD; 24 or 36 in. wide Types 2.0CD, 3.0CD, 2.0CFD, 3.0CFD, 3.0CFDES. Fluted units may be phos/painted or galvanized

VERCO DECKING INC - A NUCOR CO — Types PLB, HSB, PLN3, HSN3, PLN, N, and FORMLOK™ deck types PLB, B, BR, PLN3, N3, PLN, N, PLW2, W2, PLW3, W3. Units are min 24 in. wide and may be galvanized or phos./ptd. Units may be cellular with the suffix "CD" added to the product name, respectively. All non-cellular deck may be vented or non-vented.

VULCRAFT, DIV OF NUCOR CORP — 36 in. wide Types 1.5 VL, 1.5 VLI, 1.5PLVLI and 24 or 36 in. wide Types 2 VLI, 2.0PLVLI, 3 VLI, 3.0PLVLI fluted units; 36 in. wide Types 1.5VLP 1.5PLVLP and 24 or 36 in. wide Types 2 VLP, 2.0PLVLP, 3 VLP, 3.0PLVLP cellular units. Types 1.5VL, 1.5VLI, 1.5PLVLI, 2VLI, 2.0PLVLI, 3VLI, 3.0PLVLI units may be phos/ptd. 36 in. wide Type 1.5 SB; 24 or 36 in wide Types 2.0 SB, 3.0 SB, 36 in. wide Type High Strength 1.5 SBI, 36 in. wide Type High Strength 1.5 SBN. Units may be phos/ptd.

Spacing of welds attaching units to supports shall be 12 in. OC max unless specified otherwise, adjacent units button-punched or welded together at side joints and unless specified otherwise for specific unit types, spacing of all side joint fastening systems shall not exceed 36 in. OC.

3. **Joint Cover —** (Not Shown) — Burlap tape applied with a bituminous adhesive.

4. **Shear Connector Studs —** (Optional) — Studs, 3/4 in. diameter, length of studs 3 in., for 1-1/2 in. deep form units to 5-1/4 in. for 3 in. deep form unit. Headed type or equivalent per AISC specifications. Welded to top beam flange through steel form units.

5. **Welded Wire Fabric —** 6x6-W1.4xW1.4. When using steel joists, the min welded wire fabric should be 6x6-W2.9xW2.9.

5A. **Negative Reinforcement —** (Optional, Not Shown) — Used in lieu of Item 5 and with Item 5B. For floor spans with concrete cast continuous over the supporting beams. Deformed bars designed to resist the support moments of the concrete slab in accordance with the latest ACI Building Code Specifications.

5B. **Fiber Reinforcement* —** (Not Shown) — Required with Item 5A. Any fiber reinforcement bearing the UL Classification Marking for Fire Resistance, Classified for use in lieu of welded wire fabric.

See **Fiber Reinforcement** (CBXQ) Category for names of manufacturers.

6. **Normal Weight Or Lightweight Concrete —** Normal weight concrete: carbonate or siliceous aggregate, 150 + 3 pcf unit weight, 3000 psi compressive strength, vibrated. Lightweight aggregate concrete: expanded shale, clay, or slate aggregate by rotary-kiln method, 112 + 3 pcf unit weight, 3000 psi compressive strength, vibrated, 4 to 7 percent entrained air.

7. **Spray-Applied Fire Resistive Materials* —** Applied by mixing with water and spraying in one or more coats to the thicknesses shown below, to steel beam, joist and fluted steel deck surfaces which are clean and free of dirt, loose scale and oil. Use of Type PC Precoat is required on all cellular units. The Type PC Precoat shall be applied to cover approximately 70 percent of the flat plate surface. Thickness of the Type PC Precoat is included in the total thickness of the protection material. Min average and min individual density of 15 and 14 pcf, respectively, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400, 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. Min avg density of 44 pcf with min ind value of 40 pcf for Types M-II and TG. Min avg density of 47 pcf, with min individual value of 43 pcf for Type M-II/P. For method of density determination, see Design Information Section, Sprayed Material. The thickness of the Spray Applied Fire Resistive Material on the Structural Members shall be as follows:

Restrained Assembly Rating+, Hr	Unrestrained Assembly Rating+, Hr	Unrestrained Beam Rating, Hr	Concrete Type	Min Thkns Spray Applied Resistive Mtl, In					
				Deck Fluted	Deck Cellular	Beam (a)	Beam (b)	Joist (a)	Joist (b)
1	1	1	NW	3/8	3/8	3/8	1/2	3/4	15/16
1-1/2	1-1/2	1-1/2	NW	3/8	3/8	9/16	11/16	1-1/8	1 3/8

2	1	1	NW	3/8	3/8	3/8	1/2	7/8	1 1/8
2	1-1/2	1-1/2	NW	3/8	3/8	9/16	11/16	1-1/8	1 3/8
2	1-1/2	2	NW	3/8	3/8	3/4	15/16	1-9/16	1 15/16
2	2	2+	NW	3/8	3/8	3/4	15/16	1-9/16	1 15/16
3	1-1/2	1-1/2	NW	13/16	5/8	9/16	11/16	1-1/2	1 15/16
3	2	2+	NW	13/16	5/8	3/4	15/16	1-9/16	1 15/16
3	3	3+	NW	13/16	3/4	1-3/16	1 9/16	2-5/16	3
1	1	1	LW	3/8	3/8	1/2	5/8	15/16	1 1/8
1-1/2	1-1/2	1-1/2	LW	3/8	3/8	3/4	15/16	1 3/8	1 11/16
2	1	1	LW	3/8	3/8	1/2	5/8	1 1/8	1 7/16
2	1-1/2	1-1/2	LW	3/8	3/8	3/4	15/16	1 3/8	1 11/16
2	1-1/2	2	LW	3/8	3/8	1	1 1/4	1 7/8	2 3/8
2	2	2+	LW	3/8	3/8	1	1 1/4	1 7/8	2 3/8
3	1-1/2	1-1/2	LW	13/16	5/8	3/4	15/16	1 15/16	2 1/2
3	2	2+	LW	13/16	5/8	1	1 1/4	1 15/16	2 1/2
3	3	3+	LW	13/16	3/4	1 5/8	2 1/8	2 15/16	NR

(a) Thickness applies when beam/joist supports fluted units only.

(b) Thickness applies when beam/joist supports cellular or blended units.

+ When trench headers (Item 9 or 9A) are used, the maximum Restrained and Unrestrained Assembly Rating is 1-1/2 h; when electrical inserts (Item 12) are used, the maximum Restrained and Unrestrained Assembly Rating is 2 h.

Additional thicknesses are required when trench headers and electrical inserts are used. Refer to Items 9, 9A and 12 for required thicknesses.

BERLIN CO LTD — Types 300, 300ES, 300N, 400 or SB; Types M-II, TG and M-II/P

GREENTECH ASIA PACIFIC SDN BDH — Types 300, 300ES, 300HS, or 400; Types M-II, or M-II/P

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, 400, or 400AC; Types M-II, TG and M-II/P

ISOLATEK INTERNATIONAL — Types 300, 300AC, 300ES, 300HS, 300N, SB, 400, 400AC, 400ES, 3000 or 3000ES; Types M-II, TG and M-II/P

NEWKEM PRODUCTS CORP — Types 300, 300ES, 300N, 400, or SB; Types M-II, TG and M-II/P

8. **Metal Lath —** (Optional, Not Shown) — 3/8 in. diamond mesh, expanded steel weighing 1.7 lb per sq yd, secured to one side of joist using No. 16 SWG steel tie wire located at the mid-height of every other web.

8A. **Glass Fiber Mesh —** (Not Shown) — As an alternate to metal lath (Item 8), min 3/32 in. square mesh, coated fiberglass scrim fabric, weighing a min of 1.9 oz/sq yd, shall be attached to one side of each joist web member. The method of attachment must be sufficient to hold the mesh and fire protection material during application and curing of the material. An acceptable method of attaching the mesh is by embedding the mesh in min 1/4 in. long beads of hot melted glue. The beads of glue shall be spaced max 12 in. OC along the top chord of the joists. Another method of attachment is by the use of 1-1/4 in. long 1/2 in. wide hairpin clips formed from 0.064 in. diam steel wire, alternating from top to bottom of the joist web member.

9. **Trench Header —** (Bearing the UL Listing Mark) — (Optional, Not Shown) — Constructed of steel and provided with metal edge screeds. When the trench header is located near a support, the load carrying capacity of the span may be based on the allowable moment or shear stress of the floor units at the edge of the trench header away from the support or on the allowable composite moment or shear capacity of the slab at the center of the span, whichever governs.

As an alternate in spans employing min 20/18 MSG cellular floor units and/or min 20 MSG fluted floor units, trench headers (Bearing the UL Listing Mark) without the bottom pan may be used. The allowable superimposed load for spans with a bottomless trench header shall be based on non-composite design. The bottomless trench header, with a max width of 36 in., consists of two cell closers which conform to the contour of the floor units, placed along the sides of the desired trench header location and welded to the floor units. The side rails, consisting of extruded aluminum screeds secured to galv steel channels (min 18 MSG), are positioned over the cell closers, aligned, and secured to the cell closers and floor units. A separate U-shaped galv steel channel (min 18 MSG), serving as the power compartment, is welded or riveted to the floor units. Steel cover plates, 1/4 in. thick, shall be secured to the side rails. In bottomless trench headers wider than 18 in., each side joint of the steel floor units shall be welded with a 1 in. long weld near the trench header centerline. For QG-GKX-24 or -30 cellular floor units only, a separate KED-PTS (UL Listed) power transition sleeve is secured to power compartment with one rivet or screw.

The use of trench header requires additional protection underneath the trench header; Spray-Applied Fire Resistive Materials thickness shall be increased as shown on the following table:

Restrained & Unrestrained Assembly Rating, Hr	Min Thkns of Spray Applied Fire Resistive Mtl on Crests	In. & on Valley & Flat Plate *	Min Thkns of Spray Applied Fire Resistive Mtl on Metal Lath**
1 and 1-1/2	1-3/4	1-5/8	—
2	—	—	1-3/4
3	—	—	2-1/4

* Steel studs with discs (Item 10) must be applied to flat plates of cellular units.

** Spray-Applied Fire Resistive Materials applied to metal lath (Item 11). Thickness measured to bottom plane of metal lath and to extend a min of 4 in. beyond the trench areas.

9A. **Trench Header —** (Not Shown) — With an intermittent bottom (as an alternate to Item 9) when Walker's Type WDR cellular units are used-(Bearing The UL Listing Mark)-The allowable superimposed load for spans with an intermittent bottom trench header shall be based on non-composite design. The intermittent bottom trench header, with a maximum width of 36 in., consists of horizontal closure plates, (min No. 16 MSG) with 4 threaded studs pre-welded on the top side of each plate near its corners. The plates are to be placed over the fluted areas of the floor units and affixed to the floor units by welds at each corner. Concrete is to be vibrated into the voids formed by the plates and the fluted areas of the units beneath the trench header. The upper side rail is extruded aluminum attached to the lower steel side rail clip with an adjusting screw. The lower side rail positioned over the edge of the horizontal closure plates snapped-on the pre-welded threaded studs on top of the plates. Spray-Applied Fire Resistive Materials thickness shall be increased to 1-3/4 in. in crests and 1-5/8 in. on valleys and flat plates for the 1 and 1-1/2 h ratings. Steel studs with discs (Item 10) must be applied to flat plates of cellular units.

10. **Steel Studs With Discs —** (Not Shown) — For use on cellular steel floor and form units under the trench headers. The stud consists of No. 12 SWG steel wire, 1-1/4 in. long with one end welded to 1-1/2 in. diam, No. 28 MSG galvanized steel disc. The total

number of studs shall average at least one stud per 250 sq in. The ends of the studs opposite the discs shall be welded to the cellular units in rows parallel with the trench header. The distance between the outer rows of the studs and the edge of the trench header shall not exceed 8-1/2 in. The spacing between the rows shall not exceed 9-1/2 in. The spacing between studs in each row shall not exceed 12 in.

11. **Metal Lath —** (Not shown) — For use on fluted and cellular steel floor and form units under the trench-headers and/or on cellular units when Type 400 is used — 3/8 in. diamond, expanded steel weighing 3.4 lb per sq yd, secured to the underside of the trench-header. The width of the lath shall extend a min of 1-1/2 in. on either side of the trench-header. The lath is to be placed with the

11A. **Metal Lath —** (Not shown) — Required with Types M-II, TG and M-II/P. Metal lath shall be 3/8 in. expanded diamond mesh, weighing 2.5 lb per sq yd. Secured to underside of steel deck with No. 12 by 3/8 in. pan head self-drilling, self-tapping screws and steel washers with an outside diam of 1/2 in. screws spaced 12 in. OC in both directions with lath edges overlapped approx 3 in.

12. **Electrical Inserts —** (Not Shown) — Preset and after set electrical inserts Classified as Outlet Boxes and Fittings Classified for Fire Resistance*. Unless specified otherwise for a particular preset electrical insert type, the spacing of the preset electrical inserts shall be not less than 24 in. O.C. along cellular steel floor units with not more than one preset electrical insert in each 8 sq ft of floor area. The required thickness of spray-applied fire resistive material on the steel floor units with inserts shall cover the entire length and width of the units between supports and shall extend beyond the edge of inserts onto adjacent floor units for a min horizontal width of 12 in. In floor spans (between supports) containing electrical inserts, the entire floor span (fluted and cellular steel floor units) must be sprayed with a min of 1/2 in. thickness of spray-applied resistive materials.

(1) KAM INDUSTRIES LTD, DBA CORDECK

(Tapmate II, II-EA, II-FN, II-EAFN: Series KEB)

Installed per accompanying installation instructions over factory-punched holes in QL-AKX or QL-WKX floor units. Inserts are used in the pre-active, active or abandoned condition. Required spray-applied fire resistive material thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Thkns In.
(Tapmate II, II-EA)			
2	QL-AKX, -WKX	NW	7/8
2	QL-AKX	LW	1-1/16
2	QL-WKX	LW	15/16
(Tapmate II-FN or II-EAFN)			
2	QL-AKX, -WKX	NW	7/16
2	QL-AKX, -WKX	LW	3/4

The Tapmate II-FN insert may use KEM-HP-1 outlet box fittings in lieu of the KEB-PC flush cover fittings.

(Tapmate II-EAFN-FC1: Series KEB)

Installed per accompanying installation instructions over factory-punched holes in QL-WKX floor units. Inserts are used in the pre-active, active, or abandoned condition. Required spray-applied fire resistive material thickness on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Thkns In.
2	QL-WKX	NW	7/16

For abandonment, see installation instructions.

(Tapmate III-FN, III-EAFN: Series KEC)

Installed per accompanying installation instructions over factory-punched holes in QL-AKD or QL-WKD floor units. Inserts are used in the pre-active, active, or abandoned condition. Required spray-applied fire resistive material mixture thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Thkns In.
(Tapmate III-FN or III-EAFN)			
2	QL-AKD, WKD	NW	1/2
2	QL-AKD, WKD	LW	13/16
(Tapmate III-EAFN-FCI)			
2	QL-WKD	NW	1/2
2	QL-WKD	LW	13/16

The hole cut in insert cover for passage of wires shall be no more than 1/8 in. larger diam than the wire. For abandonment of Tapmate inserts, see installation instructions.

The Tapmate III inserts may use KEB-HP-1, Series KEC outlet box fittings with the same hourly rating and fireproofing thicknesses as specified for the Tapmate II-EAFN electrical inserts.

(Tapmate IV, IV-EA, IV-H, IV-H-M, IV-S)

Installed per accompanying installation instructions over factory-punched holes in QL-GKX-24 or -30 floor units. Inserts are used in the preactive, active or abandoned condition. Required spray-applied fire resistive material thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Thkns In.
(Tapmate IV, IV-H, IV-H-M, IV-S)			
1	QL-GKX	NW, LW	3/8
1-1/2	QL-GKX	NW	1/2
1-1/2	QL-GKX	LW	9/16
2	QL-GKX	NW	5/8
2	QL-GKX	LW	3/4

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Thkns In.
(Tapmate IV-EA)			
1	QL-GKX	NW, LW	7/16
1-1/2	QL-GKX	NW	9/16
1-1/2	QL-GKX	LW	5/8
2	QL-GKX	NW	3/4

2	QL-GKX	LW	7/8
(Tapmate V)			
1	QL-GKX	NW, LW	3/8
1-1/2	QL-GKX	NW, LW	1/2
2	QL-GKX	NW, LW	5/8

The holes cut in inserts cover for passage of wires shall be no more than 1/8 in. larger diam than the wire. For abandonment of inserts see installation instructions.

Type KED-HP-1 outlet box fittings may be used with Tapmate IV box assemblies or in lieu of Tapmate IV or IV-EA fittings with the same hourly ratings and protection material thicknesses as specified for the above electrical inserts.

(Tapmate IV-FN-S, IV-FN-H, IV-EAFN: Series KED)

Installed per accompanying installation instructions over factory-punched holes in QL-GKX-24 or -30 floor units. Inserts are used in the preactive, active, or abandoned condition. Required spray-applied fire resistive material thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Thkns In.
(Tapmate IV-FN-S, IV-FN-H, IV-EAFN)			
2	QL-GKX	NW	1/2
2	QL-GKX	LW	3/4

The hole cut in insert cover for passage of wires shall be no more than 1/8 in. larger diam than the wire. For abandonment see installation instructions.

Type KED-HP-1 outlet box fittings may be used with Tapmate IV box assemblies or in lieu of Tapmate IV-FN-S, IV-FN-H, IV-EAFN fittings with the same hourly ratings and protection material thicknesses as specified for the above electrical inserts.

(Tapmate KED-MSA Multi-Service After set Inserts)

Installed per accompanying installation instructions in core-drilled holes over QL-GKX-24 or -30 steel floor units. Spacing of after set inserts shall be not more than one insert per each 7-1/2 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent after set inserts. After set inserts may be installed with either the flip lid plastic cover (KEC-PC3, PC4 and PC5 components) or the Deluxe Cover (KED-NAC type). Required Spray-Applied Fire Resistive Materials thicknesses on steel floor units with inserts are tabulated below:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Thkns In.
1	QL-GKX	NW, LW	3/8
1-1/2	QL-GKX	NW	1/2
1-1/2	QL-GKX	LW	9/16
2	QL-GKX	NW	5/8
2	QL-GKX	LW	3/4

KAM INDUSTRIES LTD, DBA CORDECK — Tapmate II, II-EA, II-FN, II-EAFN, II-EAFN-FC1: Series KEB. Tapmate III-FN, III-EAFN, III-EAFN-FC1: Series KEC. Tapmate IV, IV-EA, IV-EAFN, IV-FN-S, IV-FN-H, IV-H, IV-H-M, IV-S: Series KED, Tapmate KED-MSA

(2)Wiremold Co. After set Inserts.

(Types TSAR, TSACR After set Inserts)

After set inserts installed per accompanying installation instructions in holes core drilled through concrete topping to top of cells of the cellular floor units. TSAR and TSACR, for use in 7 in. diam holes . Spacing shall be not more than one insert in each 4 square ft of floor area with not less than 2 ft center to center of adjacent inserts. The required Spray-Applied Fire Resistive Materials thicknesses on floor units with inserts are shown below:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Thkns In.
(Types TSAR, TSACR)			
1	WDR2 or WDR3	NW, LW	1/2
1-1/2	WDR2 or WDR3	NW, LW	3/4
2	WDR2 or WDR3	NW, LW	1-1/4

When spacing is not more than one insert in each 8 square ft of floor area with not less than 2 ft center to center of adjacent inserts, the required Spray-Applied Fire Resistive Materials thicknesses on floor units with inserts are shown below:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Thkns In.
(Types TSAR, TSACR)			
1	WDR2 or WDR3	NW	3/8
1-1/2	WDR2 or WDR3	NW	3/8
2	WDR2 or WDR3	NW	1/2
3	WDR2 or WDR3	NW	3/4

WIREMOLD CO — Types TSAR, TSACR after set inserts

13. **Roof Covering Materials* —** (Optional, Not Shown) — Consisting of materials compatible with insulations described herein which provide Class A, B or C coverings. See **Built-Up Roof Covering Materials*** in the Building Materials Directory.

14. **Insulated Concrete —** (Optional, Not Shown) — Various types of insulated concrete prepared and applied in the thickness indicated.

A. **Perlite Concrete —** Mix consists of 6.2 cu ft Perlite Aggregate* to 94 lbs of Portland cement and 1-1/2 pt air entraining agent. Compressive strength 80 psi min.

See Perlite Aggregate (CFFX) category for names of Classified companies.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2021-05-12